CACTUS AND SUCCULENT JOURNAL

Of the Cactus And Succulent Society Of America

Vol. XX MARCH, 1948 No. 3

FIG. 21. There are several forms of *Haworthia margaritifera* that are available and easy to grow. Haselton photo.

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Published and Owned by the Cactus and Succulent Society of America, Inc., Box 101, Pasadena 16, California. A monthly magazine to promote the Society and devoted to Cacti and Succulents for the dissemination of knowledge and the recording of hitherto unpublished data in order that the culture and study of these particular plants may attain the popularity which is justly theirs. U.S.A. and Latin Am. $3.00. Foreign $3.50 per year by international money order. Membership in the Cactus Society free with subscription. Mail application to SCOTT HASELTON, *Editor*, Box 101, Pasadena 16, Calif. *Editorial Staff:* THE ENTIRE SOCIETY. Entered as Second Class Matter at Pasadena, Calif., under act of March 3, 1879.

Vol. XX MARCH, 1948 No. 3

EDITOR'S NOTES

The Cactus and Succulent Society of America, Inc., will meet Tuesday night, March 23rd, 1948, at 7 P. M. in the Lecture Room of the L. A. Public Library, 530 South Hope Street.

Almost twenty years ago (March 30, 1929) our speaker was Mr. William Hertrich, Curator of the Huntington Botanical Gardens, and at our anniversary meeting we will be favored by the same speaker. Mr. Hertrich will show his colored, moving picture film of the Gardens which will naturally include a good section devoted to his world famous cactus and succulent garden. It is a rare privilege to have the Huntington Library and the 200 acre estate brought *to* you, in this film that required years to photograph. A trip through the Gardens in San Marino is always gratifying as you see the seasonal plants in flower but on Mr. Hertrich's film you will see the year's display of flowers and fruit parade before you in a single hour.

FIG. 22. Mr. William Hertrich, retiring Superintendent of Huntington Gardens. About forty years ago he was assigned the task of adding a cactus garden to the 200 acre San Marino Ranch.

As in 1939, there will be among the other door prizes a nice specimen of *Echinocactus Grusonii*. Come and meet the "Old Timers"—we expect all of them to be there. Just a warning—if you want a seat you must plan to be there promptly because the pictures start at 7 o'clock.

PROCTOR'S PICTURES

The March issue of The Flower Grower had a cover showing the hybrid Epiphyllum "Montezuma" in full color by R. C. Proctor. The feature article "The Exotic Orchid Cactus" was written and illustrated with photographs by Mrs. Proctor (Claire Meyer Proctor). We anticipate the March issue of Arizona Highway which is promised to be the best yet for its Kodachromes of cacti.

Those living in the Los Angeles area will be privileged to see a hundred Kodachrome slides by the Proctors, at the Los Angeles Public Library meeting of the Cactus and Succulent Society of America, 7 P. M., March 23. The slides will feature flowering cacti that are usually found in collections as well as one of the finest series of desert cactus pictures—mostly of native Arizona plants.

Mark your calendar now for this rare treat and be there early.

On February 19th, the Freeport Cactus Club celebrated its eighth anniversary. The lessons of the evening were: Hylocereus by Mrs. Levi Mishler, and Selenicereus by Mrs. Reuben Prasse. The address of the club is 1433 S. Oak St., Freeport, Illinois.

FIG. 23
On Tortuga Island, *Lophocereus Schottii* was dwarfed—with bristly flower stems only three feet tall!

A CRUISE IN THE GULF OF CALIFORNIA

By GEORGE LINDSAY

Part IV

The next morning we passed Coronado Island and entered Loreto, our first port of call, and the first Capital of California. It was here Jesuit Father Salvatierra founded the mother mission, here that Father Serra landed on his way to found the Franciscan chain of missions of which our California is proud. Making port in Mexico involves certain formalities. Bill and I had shaved and put on clean shirts for the occasion. We could see scurrying on the beach as a dugout canoe was filled with officials and came to meet us. Unfortunately we had forgotten to pull in our two jigs, and just as we were being motioned into an anchorage, giant sierras took each line! We had to stop to pull them in, which the boatload of officials stood waiting—which shot hell out of all the protocol of meeting port officials! Over coffee in the galley we were given a sincere welcome to Loreto and permission to come and go as we pleased while waiting for gasoline and other supplies. We took laundry ashore, visited the old stone mission, arranged for the accumulation of our needed supplies, and renewed friendships of a past visit to the pueblo. As there is no harbor at Loreto we crossed to Puerto Ballandera on Carmen Island.

For years I had wanted to see giant *Ferocactus Diguetii* growing, and had searched Coronado Island in 1937, to find them extinct there. Also had arranged trips to Cerralbo and Carmen Islands, but each time a falling barometer had prompted the Captains of the Port to refuse permission to sail. We walked inland from the perfect little harbor to a ranch. It seemed strange, after so many stops, to find an island inhabited! Even here all drinking water had to be carried some distance by canoe. Arrangements were made for a boy from the ranch to guide me, the next morning, to where we could find "visnagas." We had a long walk with little to show for it! The largest specimen we found was less than three feet tall! Again we met the story that all had been used for cattle food during drought years. We sailed slowly along miles of Carmen Island, scanning cliffs for these giant plants—which weren't! At the south end of Marquer Bay, we climbed to photograph a specimen—only three and a half feet tall! Sailing

into a small bay on Danzante Island we failed to locate *F. Diguetii.* Discouraged, we went to Puerto Escondido for the night.

Puerto Escondido means hidden harbor, and that is the name for it! There is a fine, deep outer harbor, from which a seventy foot opening leads into a perfectly landlocked inner harbor! Bill had been through the entrance before, so pushed the "Adventurous" straight through without pause! Inside we were in a little world all our own!

Walking a mile or so inland we came upon the Perpuly Ranch. Our time was running short, and I knew I would return to the Loreto area for further plant hunting, so no effort was made to climb into the mountains. I did ask the people at the ranch if they knew of any cacti meeting the description of *Mammillaria radiaissima,* though not in so many words. A young vaquero remembered having seen biscuit-shaped cacti in the mountains. Hours later, back on the "Adventurous," we were hailed from shore by Mexicans who had brought the plants. I rowed ashore, where I was surprised and amused to find that they had gone to great effort to find, then trim off every spine from several small barrel cacti! This spine trimming was the first step in the process of making cactus candy, and for what other reason could those on the "yactecito" wish visnagas? The despined plants reminded me of by first G.I. haircut. After the Mexicans' long hike I couldn't bring myself to tell them that without spines the plants were without value. This, then, is to warn the next person who might be inclined to send a native up Sierra Giganta for plants—specify clearly that you want the cacti, spines and all! When I rowed back to the boat, Bill asked through the dusk if the plants were different. I could only tell him they were different than any I had seen.

We returned to Loreto April 18th. The steamer had come and gone, but left no gasoline. Because of constant headwinds our fuel consumption had been high and we needed additional fuel to get to Mazatlan. We caught the steamer in La Paz by miliary telegraph, but when requested to bring gasoline they said that for three weeks the taxis and trucks of La Paz had been running on kerosene! Customs officials suggested that we try the salt works on Carmen Island, which we decided to do. We spent the day filling our tanks with water brought out by dugouts, and collecting the beer, bread, fresh beef, laundry, etc., which we had ordered. In the evening, Bill signed his master's papers in our agent's office, and we left for

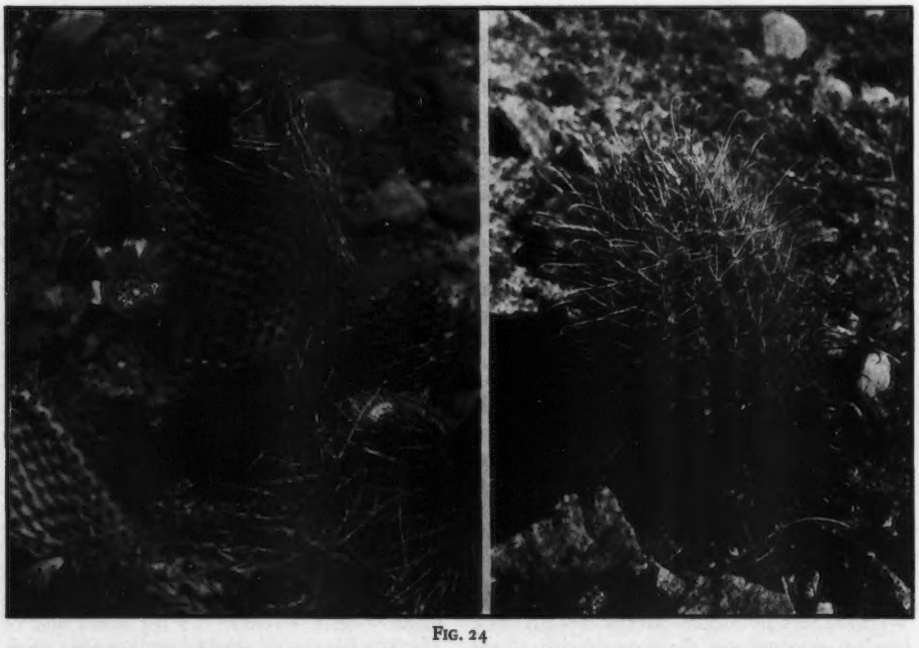

FIG. 24

LEFT: *Opuntia comonduensis* is the only pad cactus to be found on the southern gulf islands. This one in flower was on Carmen Island. RIGHT: *Ferocactus horridus* is a heavily armed species from San Francisquito.

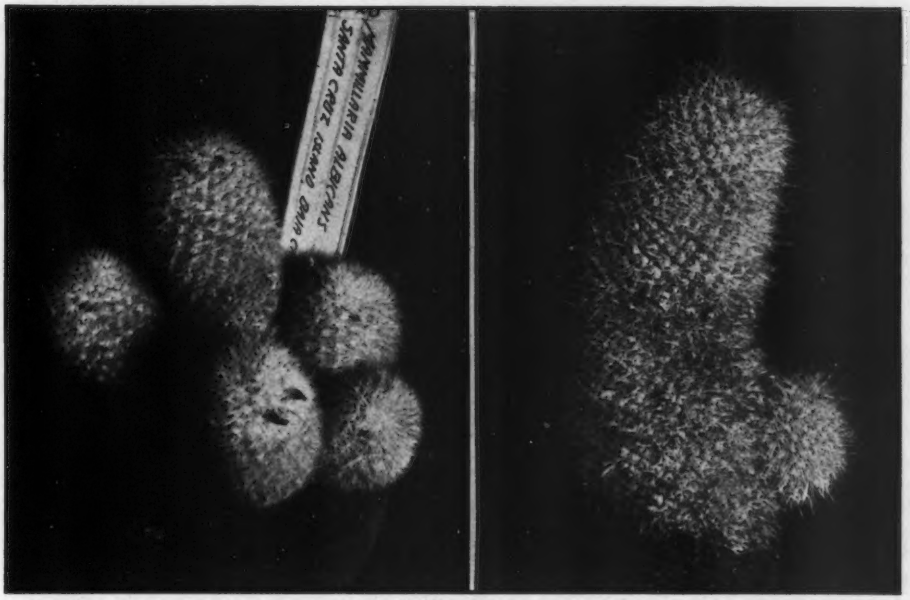

FIG. 25

LEFT: *Mammillaria albicans* is found only on Santa Cr uz and San Diego Islands. RIGHT: *M. cerralboa* is only found on Ceralbo Island.

Ballandera Bay, arriving after dark. The next morning we went around the north end of the island, through dense fog, to the salt works. Here, in large beds separated from the gulf, there are extensive deposits of very high quality salt. The deposits show no signs of depletion, though they have been worked many years. We enjoyed visiting the works, and its gracious manager, Mr. Gabriel Milhe, told us much of the lore and history of the gulf. In spite of a definite shortage, the company sold us a drum of gasoline and also offered us the use of their vehicles to explore the southern part of the island. We had to decline the latter invitation, though, as our anchorage was exposed and we were anxious to get in a sheltered location for the night. We enjoyed both Loreto and Carmen Island with its genuine friendship.

That night we spent at Monserrate Island. Its vegetation, as that of Carmen, was much heavier than the northern islands, reflecting a change from the Lower Sonoran to Arid Tropical life zones. We found one small specimen of *F. Diguetti* growing on the beach, plus the other usual cactus species. We left by compass through heavy fog the next morning, and were soon anchored off Catalina Island. Here at last we found *Ferocactus Diguettii* in huge sizes. Ponderous specimens grew everywhere over the island, from the water's edge to mountain tops. We saw many specimens over ten feet tall and two feet in diameter! Spines were golden yellow, and short, so that small specimens looked much like *Echinocactus Grusonii.* One or two specimens were in flower, the perianth segments being yellow with red midstripe, giving the whole flower an orange appearance. I suspect the Ferocacti of Carmen Island might well be considered a varital form of *F. Diguetii.* Catalina is a little known island. Charts have it marked in with dotted lines, and the Coast Pilot admits having little information about it. It was beautiful. We spent only an hour on the island, but it was a highlight of the trip.

Santa Cruz Island was our next stop. It is high, barren, and rocky, its eastern side consisting of bold bluffs three hundred to a thousand feet high, and its western side slopes up from the water at a forty-five degree angle. We sailed to the south end of the island, the only place a landing is possible. The first thing we noticed were two boats wrecked on the rocks. Then our lead line found no bottom at eleven fathoms, though we were almost in the breakers. Finding anchoring impossible, Lynne and I went ashore while Bill slowly cruised about in safe water.

We located *Mammillaria albicans,* a pretty little snowball of a plant. It grew in rocks, the many headed clumps finding root space in any little crevice. Two cylindropuntias were col-

FIG. 26. Lynne and Bill Long, my host and hostess on the gulf cruise—and Bandita, the mascot, who furnished the amusement.

lected, and both brown and golden spined forms of *Echinocereus Brandegeei* were noticed. We didn't spend long on the island, as the increasingly rough sea threatened to keep us ashore. The small folding boat, which we had to use after losing the skiff, had very little freeboard. It did well by us, although we had to step out into the water when we neared shore, for otherwise the canvas and plyboard bottom couldn't have endured many landings on rocky beaches.

We sailed past San Diego Island, also the home of *M. albicans,* and on to San Jose Island. We were anxious to find *Mammillaria Slevinii* and *Ferocactus Townsendianus,* as this is the type locality for both. Going ashore near the north end we startled a nice buck, which startled us by crashing through heavy brush. Finding no plants of interest, we made another stop below the salt works the next morning. Here we walked several miles inland without finding the *Mammillaria,* though we did find, photograph and collect conical *Ferocactus Townsendianus,* a species named for Dr. Charles Townsend, who was in charge of the scientific work of the "Albatross" during its cruise in Lower California in 1911. Dr. Rose discovered the plant March 15th, 1911. We decided to try on San Francisco, the next island south, for *M. Slevinii,* but a rapidly rising sea made a landing impossible, so we sailed on to the southern Isla Partida.* We anchored in the straight which separates Partida from Espiritu Santo Island. We failed to find the milky *Mammillaria* mentioned by Johnston as occurring there, though we did collect *M. fraileana. Agave vexans* var. *roseana* was in flower.

*Mr. F. Radley has since told me *Mam. Slevinii* is to be found among boulders on the beach at the extreme south end of San Jose Island.

We had intended to spend a day or so at Espiritu Santo, with stops on the other side of the island. During the night there was strong wind and the "Adventurous" rolled heavily. Early the following morning we decided to run for the east side of the island, where there would be protection. Once outside the straight the wind died, and we decided to run south through Lorenzo Channel to Ceralbo, our last island stop. It was late afternoon when we landed, and walked up a long arroyo, to avoid the dense underbrush characteristic of the southern gulf islands. Here again we found fine specimens of *Ferocactus Diguetii,* though not as abundant as on Catalina. Small plants of *Pachycereus Pringlei* were everywhere. The plants seemed never to become large, and perhaps are an insular variation. Time was short on Ceralbo, as it was late evening, and again we were too exposed to anchor for the night. We walked rapidly inland, and at last found what we were primarily interested in, *Mammillaria cerralboa.* This elongated, golden spined plant is very attractive, growing scattered over arroyo walls. Many of the plants were nearly pendent. Some had hooked spines, others were all straight. Several specimens were two feet long and three inches in diameter. A few had branches, though most were simple. Mr. Radley tells me that he and Mr. Marks found large clumps, branching from the base, at the south end of the island.

It was dark as we rowed back to the "Adventurous." We up anchored and took a southeast course to clear the end of the island. At nine P. M. we headed due east, for Mazatlan. The following day was uneventful, except for passing through a school of blackfish early in the morning, and several schools of leaping tuna—great fellows, averaging over a hundred

pounds. At 2:30 A. M., April 24th, we picked up the light of Mazatlan, and the port officials were aboard at eight.

The Gulf cruise had been a wonderful experience. For a month we had lived in our own tight little world, where the important things were wind and weather, islands and what we might find on them, and an appreciation of the wilderness of the Sea of Cortez.

Botanically the results were not important. We did add a little to our knowledge of the gulf flora, but after all, what is less important than knowing a little less or more about the cacti to be found on these seldom visited islands? It would be foolish to claim to have made any sort of a comprehensive survey of the cactus flora. Spending a few hours at one point of a large island isn't a "survey!"

We ourselves were the ones who gained from the experience. We were not sponsored by some institution, nor collecting for profit. We were responsible only to ourselves—and we profited from the experience of watching long files of pelicans flying slowly across a "technicolor" sunset, of feeling a real "companionship" for a couple of whales in a deserted harbor—of watching the incomparable change of colors flash over a dolphin as it beat its life out on our deck. There was deep living, too, in the few hours that we fought the gulf blow—when we pitted our strength and mental resources against elements.

Soon I was flying toward home, and the Longs and their "Adventurous" were sailing toward Acapulco, then Honolulu. The Gulf trip was over.

Botanical collections were made under permit granted January 25, 1947, by the Secretaria de Agricultura y Fomento, Direccion General Forestal y de Caza, Ofna. de Protection, and signed by Lic. Silvestre Aguilar. Specimens of each species collected have been deposited in the Jardin del Museo de la Flora y Fauna Nacionales de Chapultepec, Mexico, D.F. In addition, specimens of most species collected have been deposited in the Desert Botanical Garden of Arizona.

I wish to express my appreciation to Prof. Mazimino Martinez, Lic. Silvestre Aguilar, and those other Mexican scientists and officials, without whose active cooperation and aid, this trip could not have been made.

FIG. 27. Young plant of *Haworthia tortuosa* produces many effsets. Older plants have a twisting form as shown in Fig. 252 "Succulents for the Amateur." The gray-green color of the plant with the tubercles of the same color make it an attractive contrast to other Haworthias.
Photo by Oliver Young, Maine. Approx. x 1.5

FIG. 28. Part of the type collection of *Sedum pulvinatum* cultivated at Ithaca, N. Y. Photo by W. R. Fisher.

A New Shrubby Species of Sedum from the Sierra Madre del Sur

By ROBERT T. CLAUSEN

Dr. W. H. Camp of the New York Botanical Garden collected plants in the mountains east of Ayutla in the State of Oaxaca, Mexico, in February, 1937. One of the collections, his no. 2835, was a *Sedum* from bare rocks along a stream. This was obtained in vegetative condition and eventually became accessioned at the New York Botanical Garden as N.Y.B.G. 76700. From there, cuttings were available to me through the courtesy of Messrs. E. J. Alexander, W. H. Camp and T. H. Everett. I propagated these cuttings in a greenhouse at Cornell University, Ithaca, N. Y., under my number C45-46. As the plants developed, they resembled superficially *Sedum luteoviride*, described in the Cactus Journal in 1946, see p. 74-77. The plants bloomed in 1946 over a period extending from the end of May until August. The accompanying photograph by W. R. Fisher is of one of these cultivated plants as it appeared on the 16th of August of that year.

The plants from near Ayutla do not match any named species of *Sedum*. They are most similar to *S. luteoviride*, but differ from that species as shown in the following table:

	Sedum luteoviride	*Sedum from Ayutla*
Width of leaves:	3-6 mm.	1.5-3 mm.
Ventral surfaces of leaves:	plane or subconvex	slightly concave
Bases of leaves:	short-spurred with the bases of the spurs truncate	short-spurred with the enlarged bases extending up as well as down stems and with the bases of the spurs varying from truncate to broadly obtuse
Sepals:	not spurred	spurred
Petals:	yellow	white

Other possible relatives of the plants from near Ayutla are *S. tuberculatum, S. retusum, S. Conzattii* and an as yet undescribed species, with green petals, which I expect to discuss in a future issue of the JOURNAL. The plants from Ayutla differ from *S. tuberculatum* in many details, particularly in their smooth, not tuberculate stems, smaller flowers and yellow, not red, anthers. From *S. retusum* they differ in their obtuse, not retuse, leaves, as well as in other respects. The plants are much smaller than *S. Conzattii* and with smooth, not papillose, stems and leaves.

Because the cushion-like bases of the leaves are a prominent feature of these plants, I have chosen a specific name which draws attention to this characteristic and means literally "cushion-shaped."

Sedum pulvinatum sp. nov., subgeneris *Pachysedum*, sectionis *Fruticisedum*. Plantae perennes, fruitcosae, glabrae, caulibus procumbentibus, radicibus aeriis numerosis ad nodos inferiores; caules ad 2.1 dm. altitudine; folia spiraliter alterna, dorsaliter convexa, ventraliter subconcava vel plana, prominenter calcarata basibus pulvinatis, 5-11 mm. longa, 1.5-3 mm. lata, pallide lucide viridia; flores solitarii, terminales vel in axillis foliorum superiorum, 5-partita; sepala lanceolato-oblonga, breve calcarata, obtusa, inaequabilia, pallide viridia, 1-4 mm. longa; petala lanceolata, acuta, rotaliter divergentia, alba, 3.5-6 mm. longa; stamina 2-4 mm. longa, filamentis albis et antheris luteis; squamae nectariferae quadratae, albae, 0.2 mm. longae; pistilla erecta, virido-alba, 3-4 mm. longa. Species floret ab sero Maio ad Augustum. Typus est planta culta ad Ithaca, N. Y., R. T. Clausen n. C45-46 in herbario Cornell University, originaliter ab montibus ad orientem Ayutla, Oaxaca, Mexico, circa 17° Bor., 96° Occ., W. H. Camp n. 2835.

The noteworthy features of *Sedum pulvinatum* may now be briefly summarized. The stems are glabrous. The leaves are oblong-elliptical, 5-11 mm. long, 1.5-3 mm. wide, lustrous green, with the bases cushion-like, prominently spurred below and with the swelling even extending minutely upwards. The flowers are solitary, either terminal or in the axils of the upper leaves. The white petals are lanceolate, 3.5-6 mm. long. The stamens are 2-4 mm. long with white filaments and yellow anthers. The greenish white pistils are erect. As yet no fruits have developed on the cultivated plants, but this is not to be regarded as significant since all flowering specimens have been pressed for the herbarium before they had a chance to develop fruits.

Sedum pulvinatum, S. luteoviride and *S. aoikon*, from a taxonomic standpoint, constitute a series connecting the species of Berger's sections *Dendrosedum* and *Fruticisedum*. Berger listed eight species under the former and nine species under the latter. Both sections were published at the same time on p. 447 of Die Natürlichen Pflanzenfamilien, ed. 2, vol. 18a (1930). In uniting them, I am choosing *Fruticisedum*, the more appropriate name and the one under which the larger number of species is listed, for the consolidated section and including *Dendrosedum* as a synonym. In this sense, section *Fruticisedum* may henceforth be regarded as coordinate with the sections *Centripetalia* and *Craigia*, as well as the typical section *Eupachysedum* Berger emend. Clausen, based on *Sedum pachyphyllum* Trelease and, as emended, including only species with axillary floral stems. As knowledge of the subgenus *Pachysedum* increases, additional sections will require recognition, also further realignments of species may be necessary.

The growth of *Sedum pulvinatum*, either at Cornell University or at the New York Botanical Garden, possibly does not reveal the full potentiality of the species. Under more favorable conditions, the plants may become larger and more floriferous. The above discussion summarizes my data concerning the species as I know it at present.

For aid in the pursuit of my studies of *Sedum*, I wish to express appreciation to the Trustee-Faculty Committee on Research of Cornell University.

Dept. of Botany
Cornell University
Ithaca, New York

What Shall We Call Our Epiphyllum Hybrids?

By MRS. CACTUS PETE

Through the ages, botanists, horticulturists and even amateur hybridizers, have always tried to improve on the works of Old Mother Nature. The great cactus family has not escaped. The plants, themselves, are somewhat wierd in form, but at least in one particular group, steps were being taken towards real beauty. It was noted that the *Epiphyllum,* which produced lovely day or night blooming white flowers, could be crossed with species of other genera to produce day blooming flowers with color. Inter-breeding by cross-pollination with *Hylocereus* and *Selenicereus,* both night blooming, produced larger flowers. Crossing with *Heliocereus,* or "Sun Cereus," produced a great color range of day blooming hybrids. Earliest hybridizers claimed to also use the *Aporocactus* ("Rat Tail), *Zygocactus* ("Christmas Cactus"), and the *Echinopsis* ("Easter Lily Cactus"), which is a small type of "Barrel Cactus," in crosses with *Hylocereus* or *Selenicereus,* either with or without the use of *Epiphyllum.* We do not seem to have any of the results of such crosses here in America, therefore we presume that, here at least, these hybrids have been so interhybridized as to have lost their habit and form. Hybridists of today are using still other plants for crossing, such as *Chiapasia.*

The wonderous flowers produced by all these years of interbreeding have at last taken the public fancy by storm, but their great popularity has aroused a question—What shall we call these lovely flowers with their strange parenthood?* If these blooms had been the result of crossing Epiphyllums with Epiphyllums, they could still carry their parents name, for a rose crossed with a rose is still a rose. So it is with a cabbage, but a rose crossed with a cabbage (if it could be done) would no longer be either a rose or a cabbage.

The name *Epiphyllum* is applied to a distinct group of plants with very definite characters—all true species. It is an established genus of its own but these hybrids are the result of crossing Epiphyllums with other cacti, sometimes seemingly entirely unrelated, but always from different genera, so they cannot truly be called Epiphyllums in the correct usage of the word. Thus we start out on a quest for a new name for our lovely hybrids.

First, we must search botanical history for a clue. We find that the name *Epiphyllum* was first used in 1689 by Hermann when he listed the name *Epiphyllum americanum* in "Par. Botavius Prodrumus." This work is so old that the original copies were written by hand—a true collector's item!

In 1753, Haworth used *Cactus phyllanthus* Linnaeus as a type species for his genus *Epiphyllum* in "Species Plantarum," page 469. Thte Genus Epiphyllum was definitely recognized and established by Haworth in "Syononym Plant Succulentas," page 197, in 1812, therein giving credit for the name to Hermann (1689) thus: *Epiphyllum* (Hermann) Haworth.

Later, *Phyllocactus* Link was erected as a genus in "Handbook Erkenn Gewachse," Vol. II, page 10, in 1831, but the same *Cactus phyllanthus* Linnaeus was used as the type species and this was nineteen years after the erection of the genus *Epiphyllum* Haworth.

We also find that *Phyllocereus* Miquel in the "Bulletin Science Physics Natural," page 112, published in 1839, was also based upon the genus *Epiphyllum* of Haworth.

Botany is a science, and like any other science, it is governed by certain rules, which must be observed, whether we like them or not. If a man reads in a book that 2 and 2 make five, and reading it there he believes that it must be so, his belief will not alter the fact that 2 plus 2 actually make four. If a wild man in the jungle should be told that black is white and, in his uneducated mind he should continue to believe it, his belief, or the belief of his entire tribe, or his nation, would not make it so. Facts cannot be changed. It is the same with botany.

The Rules of Botanical Nomenclature, established by the International Congress of Botany, prohibit the use of generic names more than once. Since this Congress is recognized as the leading and only authority on botanical nomenclature throughout the entire world, its rules must stand. Thus it becomes impossible to consider the use of the words *Phyllocereus* or *Phyllocactus,* either in place of the word *Epiphyllum* for the genus (true species) because of already established precedence; or for the hybrids, due to previous usage.

Although the usage of the words *Phyllocereus* and *Phyllocactus* still persists, especially in Europe, it would seem that these names cannot be acceptable for the fact of mere usage does not necessarily prove correctness.

It is entirely possible to name each individual hybrid according to its parentage, by using a part of each parent's name, as example: *Gasteria* crossed with *Aloe,* which was named *Gastraloe.* Also the name might be indicated by such identification as Epi X Hylocereus, the X meaning crossed by, or hybridized with. These names would all be very technical and enlightening to the true botanist, but would have little or no meaning for the amateur who is interested primarily in the flower beauty. Since the Epiphyllums have crossed with so many different species and genera, this type of naming might lead to considerable confusion, due to the various names which would need to be established for each group of plants, which to the amateur and others would all seem alike. No matter what the Epiphyllum cross may be, the Epiphyllum blood is the stronger of the two, so that the hybrids tend to favor their Epiphyllum parents in both bloom and plant growth with but slight leaning towards the other parent, whatever it may be. Even in the first generation of hybrids, so-called experts are not always able to tell from looks alone, just what the parents might be. The early hybrids have no records of parentage, so there would be scores of lovely horticultural varieties which could not be identified or placed under specialized name groups.

Further confusion is added to the fact that the hybrid strains are not kept pure, but are in turn crossbred with other genera and other hybrids. Soon their parentage is completely lost and the original specific names could no longer apply.

Since it is not necessary for a hybrid to have a specific botanical name, we have yet another recourse. A common name applied to such a varied group of plants would be a much simpler solution to this problem. All that the offspring of these diversified parents have in common is that they are all cacti and mostly epiphytic and sub-tropical in habit. We cannot merely

*We refer to the group of hybrids as a whole. Individual plants are given common names because, like orchid hybrids, the rules of nomenclature recommend such names to distinguish them from hybrids within a single genus. Descriptive names such as Golden Glow or commemorative names such as Prof. Ebert are well established.

call them "Cactus." We need a name to show WHAT cactus they are.

There has already been established such a common name, a streamlined name with plenty of appeal, in use here in America for many years and now recognized not only in the United States, but commonly used in England, Australia, Canada, Mexico and other English speaking countries. This name is "ORCHID CACTUS"*—certainly a most fitting name for these lovely flowers are truly the orchids of the entire cactus family. No other name could be more descriptive of these semi-tropical blooms, or more fitting—a name with a true "Sales Appeal," both suggestive and intriguing, as irresistable as the flowers themselves. "Orchid Cactus" is a name to be remembered without confusion, a name as simple and as beautiful as the flowers which bear it. Shall we call our Epiphyllum hybrids Orchid Cacti?

*Never "Cactus Orchids."

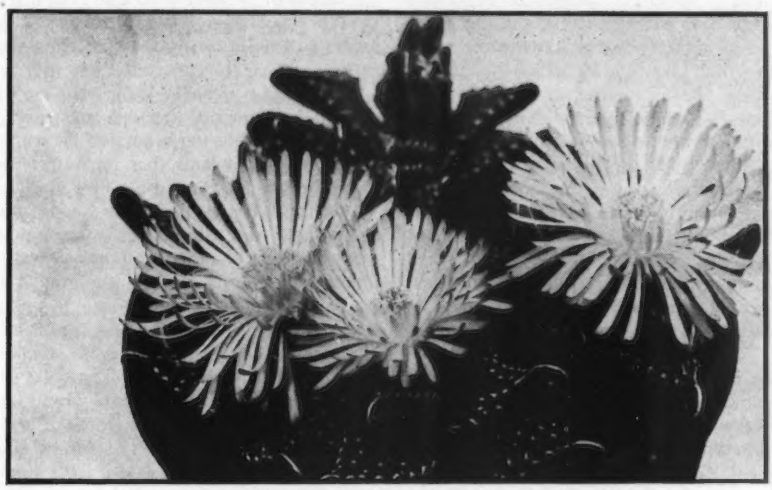

FIG. 29. *Faucaria tuberculosa* has golden dandelion-like flowers.

A Beginner's Collection of Mesembs.

By PAUL HUTCHISON

It began with *Faucaria tigrina,* commonly called the Tiger's Jaw. I was 12 years old and thought it the queerest plant I'd even seen.

I spent eight weeks of my summer vacation working in a nursery. The owner had been a succulent fan, and in the ramshackled 12x6 lean-to greenhouse there were the remains of a once fine collection. When I had no soil to mix, flats to transplant, or watering to do, I would go in and sit on the floor of that tiny paradise and fondle all the strange pets it contained. *Faucaria tigrina* whimpered for attention. She was all gray and shriveled and dusty and unkempt, and altogether I thought quite a queer-looking plant. In the weeks that followed our first acquaintance I saw her fill out, put on a new suit and comb her hair—attempt in other words to be more respectable. I liked her gay little spots, and the way she squatted down low and kept her brood of offsets close, and her rose-tinged, golden smile.

Then one day I took ten cents from my earnings, and carried her home with me. I planted her in a four-inch pot, and she seemed to like it, for she beamed her golden smile quite often. Then I wrote to an address given me by a friend and asked for a price list on succulents. When it arrived, there was my little beauty—in full array of colors, nestled in the corner of one page. So I learned her name.

In a few years I had ten Faucarias* and I was proud of them all, from bumpy *F. tuberculosa* to that proud old bear, *F. Ryneveldiae.* I came to know their habits quite well. They would grow in most any soil, but liked it sandy, well-drained, but not rich. They responded to frequent waterings providing they were so situated as to dry out quickly, and lots of light brought out their best colorings. They were easy to propagate from seed or cuttings, and once established, rapidly formed clusters. They asked only the sun's blessing to smile back in full flower, and the more sun they got, the tighter the clusters, the hardier the plant. Mealy bugs seemed to eat them only as a last resort and were easily destroyed if they did appear. All in all, Faucarias and I got along pretty well together.

To be continued

*See "Succulents for the Amateur," pg. 34.

Cacti of Uruguay

By F. C. MUELLEG-MELCHERS, Montevideo

Translation courtesy of Daniel Neumann, Jr.
From "Sukkulentenkunde," June, 1947

There are certainly a few Uruguay cacti to be found in every collection. Almost all beginners are enthused over such representatives as *Echinopsis Eyriesii* or *oxygona* in starting their collection, to which may then be added *Notocactus scopa* and *N. Ottonis*. Uruguay does not have the gorgeously-colored cacti of Argentina, for we are without the Andes and the large desert stretches. Here most of the cacti are meadow plants. Even though we do not have any meadows resembling those of the European lowlands or alpine regions, we do have meadows. One notices this especially in the spring, when the slopes of the rocky hillocks become green and the whole landscape is brightened by the big yellow Senecio bushes and patches of lilac verbenas. Then as one draws nearer, one discovers the large yellow-rose star-like blossoms of the lustrous cacti.

In the very early spring, the most beautiful is the *Notocactus concinnus* and close to it and generally still earlier to bloom, the various types of *Gymnocalycium*, which, growing near the *hypthiacanthum*, *Leeanum* or *Guerkeanum*, are probably local variations or hybrids and as such are difficult or impossible to keep separate. Their pale lemon-yellow flowers are covered with a waxy protection at the beginning of October when it begins to grow warmer. Before sunrise it can become rather cold; with a morning frost and a temperature down to 2° below freezing and even colder, the cacti are not harmed but bloom all the more beautifully because of these cold spells.

The flora is quite different to the south in the foothills of the Brazilian coastal mountains near the ocean. Here grows the red-spined *Notocactus scopa*, the familiar white spined variety of Europe having disappeared from here. It is here that are also found the Mammulosus types with many local forms, especially *Notoc. mammulosus*, and then the coarser *submammulosus*, which when putting out its growth in the early spring pushes forth its deep violet-green tubercles from the heavily felted areoles. A lesser-known species is *floricomus* with a heavy central spine, and in its flowering period, presents a beautiful sight when covered by large flowers, especially when some little insect or butterfly is attracted by the heavy pollen and the downy hairs are pushed against the pistil. Another variety is the prickly, red *N. mammulosus*. There are also intermediate forms of *mammulosus* and *scopa*, the form of the plant being more like *scopa*, but the spines resembling *mammulosus*. However, these rarities are hardly ever found any more.

There was a great fad during the '20's to raise cacti in the homes of Montevideo; then the wild plants began to be exterminated. It is incredible the quantity of plants that were uprooted only to be thrown away again in a few short months. The district has not recovered from this even today; still there are a few places where the marauders could not penetrate—in the thickets along with lesser ferns and the gray Artemisia, are to be found large *N. Ottonis* and *N. concinnus*. Squeezed in between rocks or on mountain slopes grow varieties of *Malacocarpus*, such as *tetracanthus*, *erinaceus*, etc. Their flat silky yellow blooms, as large as a child's head, are to be found only 200-300 meters from the sea. In the winter, the southwest wind blows the spray over the mountain sides and it is very cold; and yet it seems to agree with the cacti. This does not mean, however, that one should water Uruguay cacti with salt water!

In the interior of the country, cacti are actually not very common. They are found mostly along the mountainous sections of the Brazilian-Uruguayan frontier. In the north, however, on the Cuchilla negra, there are a few kinds. In stony gullies are to be found *Notocactus caespitosus* (not *Frailea*, as Britton and Rose report; for there is no *Frailea* with a carmine pistil). The body is 5-10 cm. long with a circumference of 2-3 cm. with hooked spines, the only Uruguayan cacti with this type of spine.*

Where the waters divide at the Paso de Mataperro were found *Gymnocalycium denudatum* with pink flowers, and farther south at Tacuarembo, beautiful large *G. uruguayensis* (actually only a variation of *N. Ottonis* with fewer but broader ribs and larger flowers). Farther south on the Paso Valegas, grows the *Notocactus Mueller-Melchersii* Fric with golden flowers and violet-black pistil. A few year ago, a rose-flowered variation was found, the petals being yellow-rose-crimson at the tips and the inner part yellow-white. The plant comes *from*

*There was probably a confusion here with the only hooked spine species, *Notocactus minimus* Fric.

Cerro Largo on the Brazilian frontier and flowers profusely.*

Most of Uruguay's Echinopsis types come from Tacuarembo, in the Valle Eden. The finest specimens, with roots many meters long reaching out towards moisture, grow here in the bright sunshine between thorny thickets and ferns on the north side. Also coming from here is a cactus with crimson-red flowers and light-green body and mahogany-brown spines, named by me *Echinocactus rubiflorus* and brought to Berlin in 1929, but later classified as *Notoc. Herteri* Werd. It is not a profuse bloomer and must first grow to be a big plant.

Occasionally *Frailea pygmaea* is found and a new, evidently not yet classified species from the Department of Artigas. With *Frailea asterioides* (rust-brown 3-4 cm. circumference, which with its bulbous roots completely embedded in the earth) it is believed that a small *Astrophytum asterias* has been found. This small species has a bloom 5 cm. wide, light yellow-white with a yellowish white pistil and stamens.

Of the columnar Cerei, the only representative is *C. peruvianus;* it cannot be ascertained whether it is indigenous or imported, as there are single large specimens scattered over the whole country and even large formations of them along the coast. Formerly *C. peruvianus* was used in making enclosures to confine the cattle at night.

Of the Opuntias, *chakensis* and *arechavaletai* with their orange or yellow flowers are very decorative, but of little interest for the collector. *Brasiliopuntia brasiliensis* has been introduced everywhere by the cattle. A low-growing fine-flowering type with vicious spines is *O. aurantiaca. Rhipsalis* is seldom found in Uruguay, the most usual form being *R. lumbricoides.* It covers the old trunks of trees along with a small creeping fern.

*The classification of this new form will follow shortly as *Notoc. floricomus* var. *rutilans* var. nov. Daen. et Krainz.

RESEARCH COMMITTEE

On the evening of February 12th, the first full meeting of the recently established "Committee on Cooperation," of The Cactus and Succulent Society of America, Inc., was held and the work for which the Committee was established was started.

This Committee was given the immense task of rejuvenating interest in Succulent plants: of creating interest in these plants to the end of establishing and creating new collectors and helping them with their work; assembling and filing, for the use of students and collectors, all available material dealing with succulent plants; helping any interested collector or student in obtaining the plant material needed, either by import or exchange; building up the Reference Library of the Society by the acquisition of succulent plant books, pictures, articles or notes, these to be filed and indexed and will be made available to all interested students.

Plans are now in operation to hold two meetings each year in some public auditorium at which the interested public is invited to hear qualified speakers on the subject of Xerophytic plants. It is planned to hold two field trips each year into the districts where succulent plants may be studied as they grow in nature or photographed for permanent record.

While this sounds like an enormous task, the Committee has begun work upon several of the sections and will have much more to tell you as the work progresses and all Society members and other interested persons will be kept informed of the further progress.

To be able to accomplish the work that has been planned, the Committee is issuing a call for volunteer translators in any of the several languages in which books and papers dealing with succulent plants have been published. If you can translate German, French, Dutch, Latin, Russian, Chech or Spanish, please notify the Committee if you would be willing to make some translations for them.

If you have any suggestions which might assist in the work of the Committee, send them along, address all communications to, Chairman, Committee on Cooperation, 820 W. 115 St., Los Angeles, Calif., and they will be given closest consideration.

This program has been designed for the benefit of both the Society and you, as well as for all interested students and collectors of xerophytic plants. The success of the program depends largely upon the cooperation which is received from all of you.

Mr. Daniel Neumann, Jr., of Oakland, California, has already answered our plea by sending in two valuable translations from the Yearbook of the Swiss Cactus Society—"Sukkulentenkunde" June, 1947. So that we can know what our friends in Switzerland are doing along scientific lines we are first reprinting "The Cacti of Uruguay" and following this we will print the valuable contribution by Prof. Dr. S. Schwantes in which he sets up an independent family Mesembryanthemaceae. Other specialized articles will be made available through the kindness of Mr. Neumann.

EXCHANGE OF SLIDES FOR MEETINGS

We are glad to publish any names or groups that have moving picture films or Kodachrome slides for exchange. Many of these slides and films are very educational and often cover miles of traveling. Get acquainted with each other through this service. Write to the Research Committee, Homer Rush, 820 W. 115 St., Los Angeles, telling what you have to exchange:

1. Moving picture: color or black and white, 8 or 16 mm., number of feet.
2. Kodachrome slides Glass or fiber mounted, number?
3. Description of material: with or without explanatory notes?

MAKE AN OFFER

The following books will be sold in a single lot; what do you offer? Goes to the first bidder over $150.00. Britton and Rose reprint, deluxe edition; Cactaceae; Mammillaria Handbook; fifteen first volumes of the Journal, bound; vols. 16, 17, 18, and 19 unbound; Bulletin, vol. I; Brazil, Orchids of the Tropics; Manual of Desert Trees and Shrubs; Arizona Cacti; Houghton's Cactus Book; Glossary of Succulent Plant Terms. All in good condition. Box 101, Pasadena, Calif.

RHIPSALIS IN AFRICA

Dr. Harold E. Anthony, in February "Journal of the New York Botanical Garden" states how he believes *Rhipsalis*, an American cactus, may have reached Africa. He rules out the old theory that migratory birds were carriers because none of the species of birds cross the great expanse of ocean between the West Indies and Africa. He also states that the African specimens of *Rhipsalis* are practically identical with those growing in the Americas thus proving that if they had been distributed in some geologic time there would have been noticeable differences. His conclusions are that since *Rhipsalis* have been known since 1768, man must have brought plants or seeds to Africa where birds may have been responsible for their further distribution.

BEGINNERS LIST OF "MUST" BOOKS

Cacti for the Amateur—Haselton. Postpaid $2.60, Foreign $2.75. Introduction to cacti with advice on starting a collection. Illustrated cultural information. 160 photos and color plate of 110 named cacti.

Succulents for the Amateur — Brown. Postpaid $2.60, Foreign $2.75. Introduces one to 800 best succulents with 400 illustration of named species including a color plate of 75 beautiful succulents.

Glossary of Succulent Plant Terms—Marshall & Woods. Postpaid $3.25. Pronunciation of the plant names with illustrations. Botanical terms explained in simple language. This book is necessary for a full enjoyment of cacti and the other succulents.

Study of Cacti—Higgins. Postpaid $3.00. Cactus names and classification explained. Distribution, uses and cultivation. Description of the main groups with an outline for a quick understanding of their relationship. Culture is dependent on a knowledge of the habitat of the plants.

If an amateur will master the contents of these four small books he will have a general understanding of most of the plants in cultivation and will be able to derive valuable information from even scientific articles. To enjoy ones hobby one must make an earnest effort to learn all one can about the subject.

ENTERTAINING BOOKS

What Kinda Cactus Izzat?—Manning. Postpaid $1.85. A humorous book of cartoons showing the characteristics of the desert cacti. Entertaining, yet botanically correct.

Desert Parade—Carr. Postpaid $2.75. A guide to Southwesten wild life and some of the desert plants. Know the mammals, birds, snakes and lizards that you see associated with desert cacti. Well illustrated with 72 photos.

EPIPHYLLUM HANDBOOK by Scott E. Haselton (1946). This first book on Epiphyllums and their hybrids gives their history and parentage as well as the flower parts and how to make descriptions. Complete cultural and propagation information. Explains hybridizing with pictures of all the plants used. Contains 250 pages with 170 photographs and 11 color plates. Price $3.50, postage U.S.A. 10c, foreign 50c. (Postage and sales tax in California 20c). Abbey Garden Press, Box 101, Pasadena, California.

FIG. 30. *Synadenium Grantii.* From "The Succulent Euphorbieae" by White, Dyer, and Sloane.

Synadeniums love full exposure to the sun and will stand about as much abuse as the Cast-iron Plant (aspidistra). A soil mixture of well decomposed leafmold, sand and loam in equal proportions is ideal for them. Given adequate drainage in the form of broken crocks in the bottom of the pot, watering can be carried on as regularly as for geraniums during a good part of the year.

SPINE CHATS

LADISLAUS CUTAK

Synadeniums are winter-blooming succulents that make admirable house plants, yet how many of you readers possess a specimen in your collection? These African "Milk Bushes" are excellent subjects for the window, bushy in habit, pleasantly colored with handsome foliage. They require very little care and propagate readily from cuttings. Sometimes the lowest branches become pendent and reach the ground where they send out roots and by this natural method of 'layering' additional plants are possible; in turn they can be severed from the mother plant and potted as individuals.

In botanical literature at least 13 species of Synadenium* are recognized; yet only 2 are well known and can be found in collections today. These two are *S. cupulare* first discovered in 1830, and *S. Grantii* discovered in 1862. All the rest are recorded only on herbarium sheets or as pickled specimens and await an ambitious collector of horticultural tastes to bring them into cultivation. *S. cupulare* is at most a shrub rarely exceeding five feet in height, according to most books but we have specimens eight feet tall. All its parts are quite succulent and exude a copious flow of milk on the slightest bruise. The branches are gray-green, marked with prominent leaf scars, and tend to become woody with age. Leaves appear alternate on the branches, are obovate in general outline, tapering from above the middle into a short petiole, the midrib much wing-keeled beneath, the margins minutely serrate in the upper half, dark ivy green on face with darker green veins, while paler (bice green) and often blotched purple on the underside, up to 6 inches long and 2 inches broad. The green flowers are borne in stiffly branched pedicelled umbels at the tips of branches and although interesting, are not showy as those of *S. Grantii.*

S. Grantii assumes tree-like habit, our specimens attaining a height of 15 feet. In height, color, foliage and inflorescence it is markedly different from *S. cupulare* and the two can be easily distinguished. Leaves of *S. Grantii* measure up to 7½ inches long and 2 inches broad, are obovate-spathulate in outline, bright grass green on face with prominent darker veins, while paler (chromium green) underneath, the margins minutely ciliate, the midrib prominently obtuse. The multiple cymes are axillary, produced in the axils of leaves and are decidedly striking because of the red-purple involucral glands which secrete a hard sugar-like excrescence around the rim-like organ.

When these two species of Synadenium are in flower, their fragrance is quite noticeable at a distance. The scent is likened to mild lemon. In our greenhouses, *S. cupulare* usually flowers first, beginning in December and continuing into January while *S. Grantii* commences to bloom in January and finishes in February.

* * *

G. W. Reynolds, the famous South African aloe specialist, has a paper in the Journal of South African Botany (April 1947) which was written for the express purpose of restoring *Leptaloe myriacantha* and its allies to the genus Aloe, to erect a new Section for the group, and to provide a Key to the species. It was in 1933 that Stapf erected the genus *Leptaloe* but it is now the concensus of South African botanical opinion that Leptaloes are not generically distinct from *Aloe,* but that they constitute a natural and distinctive Section of that genus. The eight species and one variety of this group are mostly grassland plants with grass-like leaves and for this reason Reynolds proposes a New Section *Graminialoe* to include them. The plants in this new Section fall naturally into two main groups: those possessing biliabiate flowers (however not in the sense of meaning applied to Haworthia flowers with distinctly decurved lower segments) and those with regular trigonous perianths. In the bilabiate group will be found *Aloe graminifolia, A. albida, A. myriacantha* and *A. Johnstonii* and in the other *A. Saundersiae, A. minima, A. minima* var. *blyderivierensis* and *A. parviflora.* The eighth species, *A. caricina,* is similar to *A. graminifolia* but doubt exists whether it should be recognized as a good species.

* * *

Opuntia vulgaris Mill. is often regarded as a dangerous weed in most tropical and subtropical countries with dry climates. According to the Agricultural Journal of Fiji (June 1947) infestation of the Ba district near the town of Tavua on the Viti Levu island have recently been discovered and immediate action has been taken locally to investigate the possibility of destroying the plants with one of the available weedicides. This *Opuntia vulgaris* infestation occurred for some distance along the Tavua coast and occasional plants have been seen inland. Spraying trials were made and the Department now states that all existing stands have since been eradicated. *Nopalea cochenillifera,* on the other hand, because of its very slow growth and spineless habit, is not regarded as a noxious weed in Fiji.

* * *

Another cactus magazine has made its appearance in 1948. It is a quarterly published under the auspices of the Cactus and Succulent Society of Australia and bears the appropriate title "SPINE." The magazine consists of 32 pages and a cover and is of convenient book size. The first issue contains cultural notes for both temperate and hot climates, as well as an article on grafting, and a critical discussion of modern taxonomy. The latter is a "peeve" article by the editor against botanists who employ patronal names to plant species. He particularly bemoans the fact that all five species in Peniocereus bear personal epithets rather than descriptive names. He also seems to give the impression that a rule of botanical nomenclature has been violated in these cases. According to the International Rules there is no violation whatsoever and it is a common practice among all professional taxonomists, from the least known to the most prominent, to commemorate people who have discovered new plants or aided in their research. I doubt whether this practice could be eliminated for at least 90% of the botanists, past and present, have used and will continue to use personal epithets in the naming of plants!

*For excellent illustrations see "The Succulent Euphorbieae" pgs. 953-960.